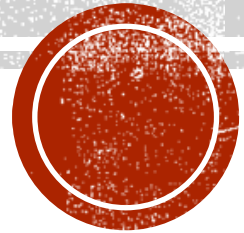
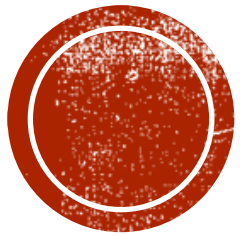
CRITIQUE PRACTICE





ODDS & ENDS

SUBJECTS/POPULATION: COMMENTARY

- Subject population
  - Is this the correct population for the question
    - Similarities to target population
- Subject number
  - Were there enough subjects to really answer question
    - 'Power'' is a limitation – statistical term
    - More is not necessarily better
      - Cost
      - Resources
      - Clinically insignificant differences

SUBJECTS/POPULATION: COMMENTARY

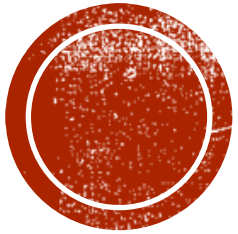
- Generalizability
  - Question – would the results be the same if a different population was studied
    - Likelihood that the result would then be applicable to other populations
  - Examples:
    - Toddlers vs. senior citizens – blood pressure/root caries?
    - Oral cancer associated with smoking in Japan vs. US (standards for production)?

‘SIGNIFICANCE’

- Relevant…somebody cares
  - Patient – esthetics
  - Clinician – cost-effectiveness
- Minimal clinical important difference
  - 100% increase?
    - 1 vs. 2 out of 10 billion people increased risk
    - 10 vs. 20 out of 100 people at increased risk
  - 1 lb weight gain difference over 5 years in children?
  - 1 vs. 1.5 mm pocket depth?
- Statistically significance…a real difference

EFFECT SIZE

- 'The difference between 2 groups'
  - Absolute effect size: mean 1-mean 2
  - Standardized mean difference: (mean 1-mean2/standard deviation)
  - OR



MANUSCRIPT CRITIQUE

OBJECTIVE

- What is the research question/hypothesis?
  - Does the research question/hypothesis address your PICO question?

METHODS

- What is the research design?
  - What is the study intervention/exposure?
  - What was the study outcome?
  - What is the timeline – that is the order of gathering intervention/exposure and outcome data?
- Is the design appropriate for the research question?

METHODS

- Who is the study population?
  - Is the population generalizable to your population (PICO)?
  - Was the population selected appropriately (i.e., adequate number, recruitment procedure, inclusion/exclusion criteria)?

METHODS

- What was/were the study protocol and techniques?
  - Was the overall protocol logical?
  - Did the techniques adequately assess the intervention/exposure and outcome?
  - Do the methods appear adequate to address the research question?

METHODS

- What statistical analyses methods were used?
  - Basics reported:
    - Sample size
    - Duration of follow-up
    - Drop outs or samples lost to follow-up reported
  - Details
    - Statistical tests used reported (appropriate?)

RESULTS

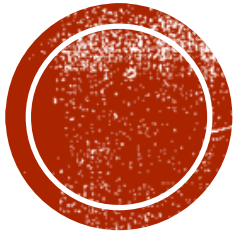
- What are the results?
  - Did the results address the research question?
  - Were descriptive data provided?
  - Were appropriate comparisons with p-values provided?

DISCUSSION

- Did the authors address the research question?
- Are their conclusions consistent with study design and methods?
- Are the results placed in context with other reported science?
- *Overinterpretation*

WILL THE RESULTS HELP ME CARE FOR MY PATIENT?

- Is my patient similar to or very different from those in the study?
- Is the treatment feasible for me to provide?
- Do the potential benefits outweigh the potential harm for my patient?



CASP TOOLS

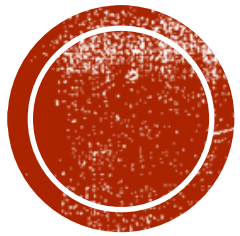
Critical Appraisal Worksheets

CEBM CASP TOOLS

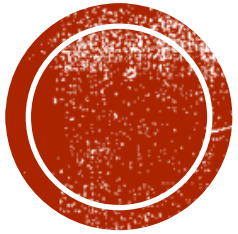
- https://www.cebm.ox.ac.uk/resources/ebm-tools/critical-appraisal-tools
  - Systematic Reviews
  - Diagnostics
  - Prognosis
  - Randomized Controlled Trials
  - Critical Appraisal of Qualitative studies
  - IPD Review
    - Systematic review/meta analyses of original data

DARTMOUTH EBM WORKSHEETS

- https://researchguides.dartmouth.edu/c.php?g=944702&p=6833653



PRACTICE!



QUESTIONS?

Thank you!